

# BondEdge Application Programming Interface (API)

with an add-in program for use with Microsoft® Excel® that includes ready-to-use sample templates

We are pleased to introduce an API capability designed to significantly broaden access to robust BondEdge® fixed income analytics in support of enterprise-wide portfolio risk management activities. For nearly thirty years, BondEdge has provided quality, sophisticated portfolio and security level analytics to the institutional investment community. Now, BondEdge clients can write their own software applications to communicate with the BondEdge calculations library, allowing them to directly access security measures or populate internal databases with this information. For example, clients can write add-in programs to import BondEdge analytics into Microsoft Office products such as Excel®. The API capability can allow clients to quickly and seamlessly analyze potential trade opportunities in detail via bond swap analysis functionality and measure the overall portfolio effect of “buy and sell” bond trade programs with a portfolio level “what-if” capability.

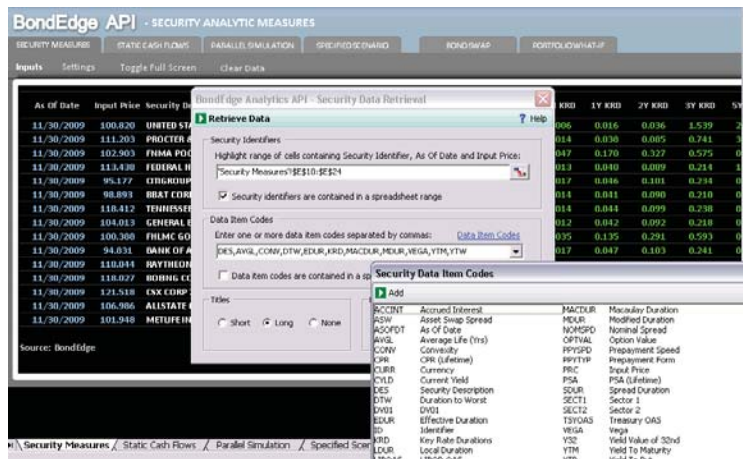
## Key Benefits

- Increase efficiency with direct access to BondEdge security analytical measures, return simulations and static cash flows.
- Streamline access to key BondEdge investment decision support functionality, including bond swap and portfolio “what-if” analysis
- Enables clients to mitigate operational risk by developing links from third-party applications to BondEdge risk analytics

## Key Features

- Comprehensive and easy-to-understand User’s Guide and Programming Manual
- Instant access to add-in program for Microsoft Excel containing sample, pre-formatted templates that are ready to use

- Direct access to robust BondEdge security measures, including effective duration, convexity, option-adjusted spread (OAS) and many more
- Scenario-based total return simulations and security analytic measures
- Static Cash Flows
- Direct links into the BondEdge platform for seamless access to bond swap and portfolio “what-if” functionality



As of Date	Input Price	Security Description	Average Life (Yrs)	Convexity	Duration to Worst	Effective Duration	6M KBD	1Y KBD	2Y KBD	3Y KBD	5Y KBD
11/30/2009	100.820	UNITED STATES TREAS HHS 1.875% 2014	4.250	0.094	4.052	4.050	0.006	0.016	0.036	1.539	
11/30/2009	111.203	PREDICTOR & GAMBLE CO 4.950% 2014	4.750	0.104	4.181	4.175	0.014	0.038	0.085	0.741	
11/30/2009	102.903	FINMA POOL - AA6069 4.600% 2024	4.250	-0.296	3.747	3.753	0.047	0.170	0.327	0.575	
11/30/2009	113.430	FEDERAL HOME LN HHS CORP 5.250% 2016	6.417	0.172	5.611	5.611	0.013	0.040	0.089	0.281	
11/30/2009	95.177	OTIEGROUP INC 5.500% 2017	7.250	0.199	5.731	5.701	0.017	0.046	0.101	0.281	
11/30/2009	98.893	BRAT CORP 4.500% 2017	7.581	0.226	6.132	6.098	0.014	0.041	0.090	0.210	
11/30/2009	118.412	TEHRANSEE VALLEY AUTH 6.250% 2017	8.083	0.244	6.324	6.279	0.014	0.044	0.099	0.238	
11/30/2009	104.013	GENERAL ELECTRIC CO 5.250% 2017	8.000	0.246	6.370	6.330	0.012	0.042	0.092	0.218	
11/30/2009	100.300	FILMCO GOLD POOL - A86197 4.000% 2039	6.417	-0.675	5.160	4.976	0.035	0.135	0.291	0.593	
11/30/2009	91.831	BANK OF AMERICA CORPORATION 5.490% 2019	9.333	0.301	7.036	6.962	0.017	0.047	0.103	0.241	
11/30/2009	110.091	DAYFORTH CO 6.000% 2018	9.083	0.291	6.079	6.013	0.013	0.040	0.081	0.212	
11/30/2009	118.027	ROBBIE CO 7.250% 2025	15.583	0.688	9.375	9.292	0.016	0.050	0.112	0.261	
11/30/2009	121.518	CSX CORP 7.450% 2038	28.333	1.201	13.000	12.373	0.018	0.051	0.114	0.269	
11/30/2009	106.986	ALLSTATE CORP 5.950% 2036	26.333	1.258	13.534	12.961	0.017	0.047	0.104	0.249	
11/30/2009	101.940	METUFE INC 5.700% 2035	25.583	1.201	13.152	12.605	0.014	0.046	0.103	0.245	

Retrieve security-level analytics for a given range of cells quickly and easily.

**BondEdge API - SECURITY PARALLEL SIMULATION**

SECURITY MEASURES | STATIC CASH FLOWS | PARALLEL SIMULATION | SPECIFIC SCENARIO | BOND SWAP | PORTFOLIO WHAT-IF

Inputs Settings Toggle Full Screen Clear Data

Type: Instantaneous  
 Horizon Months: 3  
 Renew Rate (%): 0.155  
 Muni/Tax Cr. SMTF: 100.000

As Of Date	Input Price	Security Description	Field	300	250	200	150	-100
11/30/2009	122.849	WAL MART STORES INC 6.750% 2023	Return-Income	1.123	1.123	1.123	1.123	1.123
11/30/2009	122.849	WAL MART STORES INC 6.750% 2023	Return-Price	33.458	26.964	20.903	15.193	9.812
11/30/2009	122.849	WAL MART STORES INC 6.750% 2023	Return-Total	34.580	28.083	22.026	16.315	10.935
11/30/2009	105.719	FNMA POOL - 254945 5.000% 2033	Return-Income	0.055	0.101	0.120	0.175	0.648
11/30/2009	105.719	FNMA POOL - 254945 5.000% 2033	Return-Price	3.229	3.226	3.244	2.993	2.112
11/30/2009	105.719	FNMA POOL - 254945 5.000% 2033	Return-Total	3.283	3.319	3.564	3.169	3.070
11/30/2009	107.500	FEDERAL HOME LOAN BANKS 5.250% 2018	Return-Income	0.774	0.775	0.775	0.775	0.775
11/30/2009	107.500	FEDERAL HOME LOAN BANKS 5.250% 2018	Return-Price	13.579	11.560	9.520	7.301	5.102
11/30/2009	107.500	FEDERAL HOME LOAN BANKS 5.250% 2018	Return-Total	14.354	12.343	10.295	8.156	5.877

Source: BondEdge

Project total, price, and income returns for securities given parallel shifts to the government, swap, or municipal curve. Scenario specific analytic measures can also be retrieved.

## Bond-Level Measures:

- Inputs
  - Security Identifier (CUSIP, SEDOL, ISIN, Common Code, Pool Number)
  - Security Price/Yield/OAS (optional – if not provided will default to the date on which the client last refreshed the BondEdge system)
  - As Of Date (optional – if not provided will default to the date on which the client last refreshed the BondEdge system)
  - Initial Yield Curve Inputs – Government, Swap, Municipal (optional – if not provided will default to BondEdge database yield curve for the date on which the client last refreshed the BondEdge system)
  - Prepayment Speed Inputs (optional – if not provided will default to the BondEdge Prepay Speed for the date on which the client last refreshed the BondEdge system)
  - RMBS/CMBS Credit Trigger Inputs (optional)
  - RMBS/CMBS Loss/Default Assumptions (optional)

## Analytical Output

- Effective duration
- Convexity
- Option-adjusted spread
- Accrued interest
- Asset Swap Spread
- Average life
- CPR (Lifetime)
- Current yield
- Duration to worst
- DV01
- Key Rate durations
- Local duration
- Macaulay duration

- Modified duration
- Nominal Spread
- Option value
- PSA (Lifetime)
- Prepayment rate
- Spread duration
- Descriptive Output
  - Security description
  - Primary/secondary sectors
  - Currency code
- Vega
- Yield to maturity
- Yield to worst
- Yield value 1/32
- Zero volatility spread (ZVO)

## Scenario-Based Total Return Simulations and Analytic Measures

- Parallel and non-parallel shifts to the government, swap or municipal curve
- Credit spread shift analysis

## Bond-Level Static Cash Flows

- Principal, interest and total cash flow projections
- Frequency: daily, weekly, monthly, quarterly or annual

## Trade Analysis

- Bond Swap
- Portfolio “What-If”

**BondEdge API - SECURITY STATIC CASH FLOWS**

SECURITY MEASURES | STATIC CASH FLOWS | PARALLEL SIMULATION | SPECIFIC SCENARIO | BOND SWAP | PORTFOLIO WHAT-IF

Inputs Settings Toggle Full Screen Clear Data

Period: Maturity  
 Beg. Date: 11/30/2009  
 End Date: 08/01/2033  
 Frequency: Semi Annual  
 Cash Flow to: Maturity  
 Par Flag: Current Par  
 Currency: USD  
 Units: Thousands

As Of Date	Input Price	Par	Security Description	Field	05/31/2010	11/30/2010	05/31/2011
11/30/2009	105.719	100,000	FNMA POOL - 254945 5.000% 2033	Total Interest CF	2,399	2,170	1,963
11/30/2009	105.719	100,000	FNMA POOL - 254945 5.000% 2033	Total Principal CF	9,546	8,634	7,810
11/30/2009	105.719	100,000	FNMA POOL - 254945 5.000% 2033	Total Cash flow	11,944	10,804	9,773
11/30/2009	122.849	100,000	WAL MART STORES INC 6.750% 2023	Total Interest CF	3,375	3,375	3,375
11/30/2009	122.849	100,000	WAL MART STORES INC 6.750% 2023	Total Principal CF	0	0	0
11/30/2009	122.849	100,000	WAL MART STORES INC 6.750% 2023	Total Cash flow	3,375	3,375	3,375
11/30/2009	107.500	100,000	FEDERAL HOME LOAN BANKS 5.250% 2018	Total Interest CF	2,625	2,625	2,625
11/30/2009	107.500	100,000	FEDERAL HOME LOAN BANKS 5.250% 2018	Total Principal CF	0	0	0
11/30/2009	107.500	100,000	FEDERAL HOME LOAN BANKS 5.250% 2018	Total Cash flow	2,625	2,625	2,625

Source: BondEdge

Retrieve projected security cash flows on a static basis for periodicities ranging from daily to annual.

For more information or user documentation, please contact your BondEdge Solutions Representative in Santa Monica at (310) 479-9715 or in New York at (212) 771-6771.

**BondEdge API - SECURITY BOND SWAP ANALYSIS**

SECURITY MEASURES | STATIC CASH FLOWS | PARALLEL SIMULATION | SPECIFIED SCENARIO | BOND SWAP | PORTFOLIO WHAT-IF

Inputs Settings Toggle Full Screen

Currency: USD

Summary	Sell Bonds	Buy Bonds	Difference
Par Value (000)	8,952	10,000	1,048
Market Value (000)	9,257	9,937	680
Market Value w/o Accr (000)	9,219	9,787	568
Book Value (000)	9,176	9,787	611
Accrued Interest (000)	38	150	112
Yield to Worst	3.252	6.664	3.412
Book Yield	3.515	6.668	3.153
Average Quality	AGY	A3	
Average Coupon	5.080	5.870	0.790
Average Life (Years)	1.917	4.751	2.835
Modified Duration	1.777	3.983	2.206
Effective Duration	1.116	4.023	2.907
Convexity	-1.259	0.099	1.358
Option Value	1.440	0.000	-1.440
Total Inflows (000):	9,257		
Total Outflows (000):	9,937		
Time to Breakeven (Yrs):	-0.15		
Gain/Loss (000):	43		

Quickly input buy and sell lists to generate key summary measures and relative value of the proposed trade.

**BondEdge API - SECURITY BOND SWAP ANALYSIS**

SECURITY MEASURES | STATIC CASH FLOWS | PARALLEL SIMULATION | SPECIFIED SCENARIO | BOND SWAP | PORTFOLIO WHAT-IF

Inputs Settings Toggle Full Screen

**SELL LIST**

As Of Date	Input Price	Orig Face (000)	Book Price	Security Description
03/31/2009	102.980	10,000	102.500	FNMA POOL 816433 5.080% 2035

**BUY LIST**

As Of Date	Input Price	Orig Face (000)	Security Description
03/31/2009	105.561	6,000	DISNEY YVAL1 CU MINS DL 6.200% 2014
03/31/2009	06.331	4,000	ALCOA INC 5.375% 2013

**BondEdge API - PORTFOLIO WHAT-IF ANALYSIS**

SECURITY MEASURES | STATIC CASH FLOWS | PARALLEL SIMULATION | SPECIFIED SCENARIO

Inputs Report Options Settings Toggle Full Screen

**WHAT-IF DISTRIBUTION - EFFECTIVE DURATION**

Effective Duration (% Held)	Before	After	Difference
<0.00			0.00
0.00 - 0.99	27.57	27.54	-0.03
1.00 - 1.99	13.55	11.95	-1.61
2.00 - 2.99	26.92	26.89	-0.03
3.00 - 3.99		0.60	0.60
4.00 - 4.99		1.11	1.11
5.00 - 5.99			0.00
6.00 - 6.99	9.44	9.43	-0.01
7.00 - 7.99			0.00
8.00 - 8.99			0.00
9.00 - 9.99	10.23	10.22	-0.01
10.00+	12.28	12.27	-0.01

**WHAT-IF DISTRIBUTION - MATURITY YEARS**

Maturity Years (% Held)	Before	After	Difference
<0.00			0.00
0.00 - 0.99	22.29	22.26	-0.03
1.00 - 1.99	4.57	2.97	-1.60
2.00 - 2.99	18.81	18.79	-0.02
3.00 - 3.99	15.15	15.74	0.58

Identify at a glance portfolio distributions for a variety of specified risk measures including effective duration, quality, sector and more.

**BondEdge API - PORTFOLIO WHAT-IF ANALYSIS**

SECURITY MEASURES | STATIC CASH FLOWS | PARALLEL SIMULATION | SPECIFIED SCENARIO

Inputs Report Options Settings Toggle Full Screen

**WHAT-IF SUMMARY REPORT**

Portfolio: Generic IM  
Pricing Date: 3/31/2009  
Cash CUSIP: N/A  
Currency: USD

Characteristic	Before	After	Difference
Par Value (000)	55,597	55,702	105
Market Value (000)	58,083	58,151	68
Market Value w/o Accr (000)	57,566	57,623	57
Cash (000)	5,000	5,000	0
Annual Income (000)	3,189	3,202	13
Book Value (000)	54,962	55,045	83
Gain/Loss (000)	2,604	2,577	-27
Yield to Worst	3.882	3.939	0.058
Book Yield	4.804	4.831	0.028
Average Quality	Aaa	Aa1	
Average Coupon	5.575	5.588	0.013
Average Life (Years)	6.314	6.357	0.043
Modified Duration	4.826	4.860	0.034
Effective Duration	4.375	4.421	0.046
Convexity	0.100	0.122	0.022

Identify the effects of proposed trades on portfolio averages and totals.

## About Interactive Data Corporation

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BondEdge Solutions is a leading provider of fixed income portfolio analytics to the investment community with decades of expertise. Its client base includes more than 400 leading banks, investment managers, brokerage firms, insurance companies and pension funds throughout North America and Europe. This business is known for its flagship product, BondEdge<sup>®</sup>, which allows customers to identify opportunities and analyze portfolio risk using robust modeling techniques. BondEdge Solutions also provides direct access to sophisticated risk measures for a wide universe of fixed income securities via its analytical datafeed service.

For more about Interactive Data and its businesses, please visit [www.interactivedata.com](http://www.interactivedata.com).

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### BondEdge Solutions

2901 28th Street, Suite 200  
Santa Monica, CA 90405  
USA

Tel: 310 479 9715

Fax: 310 479 6333

email: [fia.info@interactivedata.com](mailto:fia.info@interactivedata.com)

100 William Street, 10th Floor  
New York, NY 10038  
USA

Tel: 310 479 9715

Fax: 212 771 6582

email: [fia.info@interactivedata.com](mailto:fia.info@interactivedata.com)

Fitzroy House, 13-17 Epworth Street  
London EC2A 4DL

UK

Tel: +44 (0)20 8602 0857

Fax: +44 (0)20 7490 2667

email: [fia.info@interactivedata.com](mailto:fia.info@interactivedata.com)

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